

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 82-37

NPDES NO. CA0037621

REISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF SUNNYVALE
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The City of Sunnyvale, hereinafter called the discharger, by application dated January 14, 1982, has applied for renewal of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System. Order No. 77-94 presently permits this discharge.
2. The discharger presently discharges treated domestic and industrial wastes containing pollutants from its water pollution control plant at 37° , 26' latitude and 122° , 02' longitude through Guadalupe Slough to waters of San Francisco Bay and its tributaries south of Dumbarton Bridge, all waters of the United States.
3. The Report of Waste Discharge describes the existing discharge as follows:

Annual Average Flow: 17.6 million gallon per day (mgd)
Design Flow: 22.5 million gallon per day (mgd)
4. Discharger is currently reconstructing its existing plant to ensure dependability and has plans to expand the design capacity to 29.5 mgd. A request has been made in the Report of Waste Discharge to increase the capacity of the plant to 29.5 mgd.
5. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board on April 8, 1975. The Basin Plan contains water quality objectives for Guadalupe Slough and San Francisco Bay.
6. The beneficial uses of Guadalupe Slough and San Francisco Bay are:
 - a. Recreation
 - b. Fish migration and habitat
 - c. Habitat and resting for water fowl and migratory birds
 - d. Industrial water supply
 - e. Esthetic enjoyment
 - f. Navigation

7. The current discharge location is prohibited under the Basin Plan due to its location south of Dumbarton Bridge, lack of 10 to 1 initial dilution and discharge to a dead-end slough. However, public access to the actual discharge location is limited. The discharger is a member of the South Bay Dischargers Authority currently undergoing a study to establish supporting data to request Board consideration to allow continuous discharge in the existing location under the Basin Plan exception criteria. Time Schedule Order No. 81-12 adopted by the Board allows for the study and delay in implementing the Basin Plan Prohibitions. Reissuance of this Permit requires minor amendments of Order 81-12 to make it consistent.
8. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 of Division 13 of the Public Resources Code (CEQA) in accordance with Water Code Section 13389.
9. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the City of Sunnyvale, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Prohibitions

1. The discharge of waste to waters of the San Francisco Bay, south of Dumbarton Bridge or tributaries thereto is prohibited.
2. There shall be no bypass or overflow of untreated wastewater to waters of the State, either at the treatment plant or from the collection system.
3. The average dry weather flow shall not exceed 22.5 mgd. Average shall be determined over three consecutive months per year. Upon completion and implementation of the capacity-related projects described in the Report of Waste Discharge and 1980 Water Pollution Control Plan Expansion Study, and accompanied by documentation of adequate operations and capacity satisfactory to the Executive Officer, the average dry weather flow shall not exceed 29.5 mgd.

B. Effluent Limitations

1. The discharge of an effluent containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>Maximum Daily</u>	<u>Instantaneous Maximum</u>
a. BOD	mg/l	10	20	
b. Suspended Solids	mg/l	20	30	
c. Oil and Grease	mg/l	5	10	
d. Turbidity	JTU			10
e. Settleable Matter	ml/l-hr	0.1		0.2

2. At some point in the treatment process, the waste shall not exceed a median MPN of Coliform Organisms of 23/100 ml nor a maximum of 500/100 ml as determined from the results of the previous consecutive five (5) days for which analysis have been completed.
3. Chlorine residual shall not exceed an instantaneous maximum of 0.0 mg/l.
4. The discharge shall not have a pH of less than 6.5 nor greater than 8.5.
5. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

TOXICITY: The survival of test organisms acceptable to the Regional Board in 96-hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

6. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated: (a)

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>6 Month Median</u>	<u>Daily Maximum</u>
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.01	0.02
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable	mg/l (b)	0.002	0.004
Chlorinated Hydrocarbons			

- (a) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.
 - (b) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE aldrin BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.
7. The arithmetic mean of values for BOD and suspended solids in effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of respective values for influent samples collected at approximately the same times during the same period (i.e. 85 percent removal).

C. Receiving Water Limitations

- 1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
- 2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen 5.0 mg/l minimum. Annual median ~ 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved sulfide 0.1 mg/l maximum

- c. pH Variation from natural, ambient pH by more than 0.2 pH units. The variation shall be increased to 0.5 pH units if the Basin Plan revision is approved by the Regional and State Boards.
- d. Un-ionized Ammonia as N 0.025 mg/l, annual median
0.4 mg/l maximum

D. Land Disposal Requirements

- 1. Sewage sludge shall not be discharged in any manner where it is, or can be, carried from the sludge lagoons and deposited in waters of the State.
- 2. The sludge lagoons shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site. Adequate protection is defined as protection from at least a 100-year storm, and from the highest tidal stage that may occur.

E. Provisions

- 1. The requirements prescribed by this Order supersede the requirement of Order No. 77-94 adopted by the Board on July 19, 1977. Order No. 77-94 is hereby rescinded.
- 2. The discharger shall comply with all effluent and receiving water limitations and provisions of this Order immediately upon adoption.
- 3. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
- 4. The discharger shall comply with the self-monitoring program as ordered by the Executive Officer.
- 5. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 except A.12 and B.3.

6. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

Mass Emission Limit in lbs/day = Concentration limit in mg/l
X 8.34 X Actual Flow in mgd Averaged Over the Time Interval
to which the Limit Applies.

7. The discharger shall comply with all items of the Standard Provisions and Reporting Requirements for a Pretreatment Program" contained in Order No. 80-44.
8. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing provided the Regional Administrator of the U.S. Environmental Protection Agency has no objections.
9. This Order expires on June 20, 1987. The discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9, of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 16, 1982.

FRED H. DIERKER
Executive Officer

Attachments:

Standard Provisions & Reporting
Requirements dated April 1977
Self-Monitoring Program
Standard Provisions, Reporting
Requirements for a Pretreatment
Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

CITY OF SUNNYVALE

SANTA CLARA COUNTY

NPDES NO. CA 0037621

ORDER NO. 82-37

CONSISTS OF

PART A

AND

PART B

PART B - CITY OF SUNNYVALE

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and receding any phase of treatment.

B. EFFLEUNT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the the point at which all waste tributary to that outfall is present. (May be the same as E-001-D.)
E-00-D	At any point in the disinfection facilities for Waters E-001 at which point adequate contact with the disinfectant is assured.

C. RECIEVING WATERS

<u>Station</u>	<u>Description</u>
C-1-1	At any point in the dredged channel located within 100 feet downcurrent from the old point of the discharge E-1 (see attached map)
C-1-2	At a point in Guadalupe Slough located within 2500 feet easterly from the point of discharge from outfall E-3. (see attached map).
C-1-3	At a point in Guadalupe Slough located within 100 feet westerly form the point of discharge from outfall E-3. (see attached map)
C-2-0	At a point in Guadalupe Slough located not closer than 2000 feet easterly from Station C-3-0.
C-3-0	At a point in Guadalupe Slough located at the confluence with the dredged channel (conforms approximately with old Monitoring Program Station C-2).
C-4-0	At a point in Guadalupe River located in the vicinity of the Moffett NAS fuel dock and not closer than 500 feet from the point of discharge from the Outfall E-3 (conforms to old Monitoring Program Station C-4).

C-4-2	At a point in Guadalupe Slough located 2000 feet bayward from Station C-4-0.
C-4-4	At a point in Guadalupe Slough located 4000 feet bayward from Station C-4-0.
C-4-6	At a point in Guadalupe Slough located 6000 feet bayward from Station C-4-0.
C-5-0	At a point in Guadalupe Slough located at the PG&E Company power line crossing near the mouth of Guadalupe River (conforms to old monitoring Program Station C-5).

D. LAND OBSERVATION

<u>Station</u>	<u>Description</u>
P-1 thru p-'n'	Located at the corners and midpoints of the perimeter fence-line surrounding the treatment facilities. (A sketch showing the locations of these stations will accompany each report.)
L-1 thru L-'n'	Located along the perimeter levee at equidistant intervals not to exceed 500 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 thru Ov-"n"	Bypass or overflows from manholes, pump stations or collection system
	Note: Initial SMP report to include map and description of each known bypass or overflow location
	<u>Reporting</u> - Shall be submitted monthly and include date time and period of each overflow or bypass

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 82-37.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written

notice from the Executive Officer or request from the discharger,
and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachment:

Table 1 (2 pages)

Effective Date

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS ⁽¹⁾ ORDER NO. 82-37
CITY OF SUNNYVALE

Sampling Station	A-001 E-001-D C-2-0 thru C-5-0 All P L OV												
TYPE OF SAMPLE	C-24	G	C-24	G	G	O	G	O					
Flow Rate (mgd)	D												
BOD, 5-day, 20° C, or COD (mg/l & kg/day)	3/W		3/W										
Chlorine Residual & Dosage (mg/l & kg/day)			Cont										
Settleable Matter (ml/1-hr. & cu. ft./day)		5/W											
Total Suspended Matter (mg/l & kg/day)	3/W		3/W										
Oil & Grease (2) (mg/l & kg/day)	M		W										
Coliform (Total or Fecal) (MPN/100 ml) per req't		3/W		2M									
Fish Toxicity, 96-hr. TL ₅₀ % Survival in undiluted waste			M										
Ammonia Nitrogen (mg/l & kg/day)			2/M	M									
Nitrate Nitrogen (mg/l & kg/day)			2/M	M									
Nitrite Nitrogen (mg/l & kg/day)			2/M	M									
Total Organic Nitrogen (mg/l & kg/day)			2/M	M									
Total Phosphate (mg/l & kg/day)			2/M	M									
Turbidity (Jackson Turbidity Units)			2/M		2M								
pH (units)		D			2/M								
Dissolved Oxygen (mg/l and % Saturation)		D			2/M								
Temperature (°C)		D			2/M								
Apparent Color (color units)					2/M								
Secchi Disc (inches)			W		2/M								
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)		D			2/M								
Arsenic (mg/l & kg/day)			3M										
Cadmium (mg/l & kg/day)			3M										
Chromium, Total (mg/l & kg/day)			3M										
Copper (mg/l & kg/day)			3M										
Cyanide (mg/l & kg/day)			3M										
Silver (mg/l & kg/day)			3M										
Lead (mg/l & kg/day)			3M										

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS
CITY OF SUNNYVALE

ORDER NO. 82-37

Sampling Station	C-2-0 All (3) (3) C-5-0 C P L OV												
TYPE OF SAMPLE	C-24	G	C-24	G	G	O	G	O					
Mercury (mg/l & kg/day)			3M										
Nickel (mg/l & kg/day)			3M										
Zinc (mg/l & kg/day)			3M										
PHENOLIC COMPOUNDS (mg/l & kg/day)			3M										
All Applicable Standard Observations		D		M	2/M	W	W	E					
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			3M										
Unionized NH ₄ OH as N					M								

(1) During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:

1. Composite sample for BOD, Total suspended solids, oil and grease (influent and effluent)
2. Grab sample for Coliform (Total and Fecal), Settleable matter, and chlorine residual (continuous or every two hours)
3. Continuous monitoring of flow

(2) Oil and grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day, with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample.

(3) Sampling at each station shall be as follows: Alternating times of sampling between 0800 - 1000 hours and 1400 - 1600 hours.

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
Cont = continuous sampling
DI = depth-integrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwater stations

FREQUENCY OF SAMPLING

E = each occurrence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and
 once in September
Q = quarterly, once in
 March, June, Sept.
 and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous